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EXAMINER

LEE, SHUN K

ART UNIT PAPER NUMBER

2884

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/784,851

Applicant(s)

BERGH ET AL.

Examiner

Shun Lee

Art Unit

2884

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2006 and 24 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings were received on 24 August 2006. These drawings are not acceptable.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 3 and 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
3. The drawings are also objected to because where only a single view is used in an application to illustrate the claimed invention, it must not be numbered and the abbreviation "FIG." must not appear (37 CFR 1.84(u)(1)). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if

only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Specification***

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### ***Claim Objections***

5. Claims 36 and 45 are objected to because of the following informalities:
- (a) in claim 36, "said needle-shaped stimuable phosphor layer" on lines 6-7 should probably be --said stimuable phosphor layer--;
  - (b) in claim 36, "type" on line 11 and line 13 should probably be deleted;

(c) in claim 36, "at least one of said first transparent organic film and said second transparent organic film" on lines 14-15 should probably be --said first transparent organic film-- (since "said second transparent film is a polymeric film containing polymers selected from the group consisting of silazane and siloxazane type polymers, mixtures thereof and mixtures of said silazane or siloxazane type polymers with compatible film-forming polymers" as recited on lines 9-14 of claim 36); and

(d) in claim 45, "polymers siloxazane polymers" on line 9 should probably be --siloxazane polymers--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains: Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 2884

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1, 5, 9, 13, 17, 21, 45, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873).

In regard to claims **1, 5, 9, 13, 17, and 21**, Kano *et al.* disclose (Figs. 1 and 2) a radiation image sensor comprising:

(a) a stimuable phosphor screen (23) comprising:

(a1) a radiation-transparent substrate (11) such as plastic films, glass, or aluminum sheets (column 4, lines 51-61);

(a2) a stimuable phosphor layer (12) formed on said substrate (11), wherein said storage phosphor is a binderless needle-shaped, vapor-deposited CsBr:Eu phosphor (column 6, line 62 to column 7, line 11; column 8, line 52 to column 9, line 18);

(a3) a first transparent organic film (13a) covering said stimuable phosphor layer (12); and

(a4) a second transparent film (13b) formed on said first transparent organic film (13a), said second transparent film (13b) is a polymeric film (e.g., "silicone resins"; column 9, line 46 to column 11, line 50),

(b) an imaging device (25, 26) disposed in order to face said stimuable phosphor screen (23).

Art Unit: 2884

The screen of Kano *et al.* lacks an explicit description that the polymeric film contains polymers selected from the group consisting of silazane and siloxazane polymers, mixtures thereof and mixtures of said silazane or siloxazane polymers with compatible film-forming polymers. However, polymers for forming optical quality protective films are well known in the art. For example, Benz *et al.* teach (column 3, lines 12-32) that the polymeric film contains polymers selected from the group consisting of silazane and siloxazane type polymers, mixtures thereof and mixtures of said silazane or siloxazane type polymers with compatible film-forming polymers, in order to obtain a protective layer having desired properties such as good abrasion and scratching resistancy. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a known polymer (e.g., silazane, siloxazane, compatible film-forming polymers, or mixtures thereof) for the second transparent film in the screen of Kano *et al.*, in order to obtain a protective layer having desired properties such as good abrasion and scratching resistancy.

In regard to claim **45**, Kano *et al.* disclose (Figs. 1 and 2) a radiation image sensor comprising:

(a) a stimuable phosphor screen (23) comprising:

(a1) a radiation-transparent substrate (11) such as plastic films, glass, or aluminum sheets (column 4, lines 51-61);

(a2) a stimuable phosphor layer (12) formed on said substrate (11), wherein said storage phosphor is a binderless needle-shaped, vapor-deposited CsBr:Eu

phosphor (column 6, line 62 to column 7, line 11; column 8, line 52 to column 9, line 18);

(a3) a first transparent organic film (13a) covering said stimuable phosphor layer (12); and

(a4) a second transparent film (13b) formed on said first transparent organic film (13a), said second transparent film (13b) is a polymeric film (e.g., "silicone resins"; column 9, line 46 to column 11, line 50),

(b) an imaging device (25, 26) disposed in order to face said stimuable phosphor screen (23).

The screen of Kano *et al.* lacks an explicit description that the polymeric film contains siloxazane polymers. However, polymers for forming optical quality protective films are well known in the art. For example, Benz *et al.* teach (column 3, lines 12-32) that the polymeric film contains silazane and oxygen (*i.e.*, siloxazane), in order to obtain a protective layer having desired properties such as good abrasion and scratching resistancy. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a known polymer (e.g., siloxazane) for the second transparent film in the screen of Kano *et al.*, in order to obtain a protective layer having desired properties such as good abrasion and scratching resistancy.

In regard to claim **46** which is dependent on claim 45, the screen of Kano *et al.* lacks an explicit description that the polymeric film further comprises silazane.

However, polymers for forming optical quality protective films are well known in the art. For example, Benz *et al.* teach (column 3, lines 12-32) that the polymeric film contains



Art Unit: 2884

silazane and oxygen (*i.e.*, siloxazane), in order to obtain a protective layer having desired properties such as good abrasion and scratching resistancy. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a known polymer (*e.g.*, silazane and siloxazane) for the second transparent film in the screen of Kano *et al.*, in order to obtain a protective layer having desired properties such as good abrasion and scratching resistancy.

9. Claims 2, 6, 10, 14, 18, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873) as applied to claim 1 above, and further in view of Arakawa *et al.* (US 4,863,826).

In regard to claim 2 which is dependent on claim 1, while Kano *et al.* also disclose (column 5, lines 4-7) a subbing layer between said substrate and said stimuable phosphor layer, the modified screen of Kano *et al.* lacks an explicit description that the subbing layer comprises a transparent organic film. However, subbing layers are well known in the art. For example, Arakawa *et al.* teach (column 3, line 56 to column 4, line 3) that a subbing layer comprises a polymer material with optional additional light reflecting or light absorbing material, in order to obtain a organic film having desired optical properties which also enhances bonding. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a known subbing layer (*e.g.*, a transparent organic film) for the unspecified subbing layer in the modified screen of Kano *et al.*, in order to obtain a layer which enhances bonding.

In regard to claim **6** which is dependent on claim 2, Kano *et al.* is applied as in claim 5 above.

In regard to claim **10** (which is dependent on claim 2) and claim **14** (which is dependent on claim 6), Kano *et al.* is applied as in claim 9 above.

In regard to claim **18** (which is dependent on claim 10) and claim **22** (which is dependent on claim 14), Kano *et al.* is applied as in claim 17 above.

10. Claims 3, 7, 11, 15, 19, 23, 33, 35, 37, 39, 41, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873) as applied to claim 1 above, and further in view of Homme (US 2003/0160185).

In regard to claim **3** which is dependent on claim 1, while Kano *et al.* also disclose (column 9, line 46 to column 11, line 50) that the first transparent organic film (13a) is a polymeric film, the modified screen of Kano *et al.* lacks an explicit description that the polymeric film comprises a poly-paraxylylene film. However, polymers for protective layers are well known in the art. For example, Homme teaches (paragraph 33) that a protective layer comprises polyparaxylylene. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a known polymer (e.g., polyparaxylylene) for the unspecified polymer of the protective layer in the modified screen of Kano *et al.*

In regard to claim **7** which is dependent on claim 3, Kano *et al.* is applied as in claim 5 above.

In regard to claim **11** (which is dependent on claim 3) and claim **15** (which is dependent on claim 7), Kano *et al.* is applied as in claim 9 above.

In regard to claim **19** (which is dependent on claim 11) and claim **23** (which is dependent on claim 15), Kano *et al.* is applied as in claim 17 above.

In regard to claims **33**, **37**, and **41**, Kano *et al.* disclose (Figs. 1 and 2) a method of preparing a stimuable phosphor screen or panel, said method comprising the steps of:

- (a) forming a stimuable phosphor layer (12) on a radiation-transparent substrate (11);
- (b) forming a first transparent organic film (13a) covering said needle-shaped stimuable phosphor layer;
- (c) forming a second transparent film (13b) formed on said first transparent organic film; and
- (d) forming a third transparent film layer (column 4, lines 1-6), wherein said third transparent film layer is a polymeric film covering said second transparent film layer.

The method of Kano *et al.* lacks an explicit description that the second and third transparent films contains polymers selected from the group consisting of silazane and siloxazane type polymers, mixtures thereof and mixtures of said silazane or siloxazane type polymers with compatible film-forming polymers. However, polymers for forming optical quality protective films are well known in the art. For example, Benz *et al.* teach (column 3, lines 12-32) that the polymeric film contains polymers selected from the

Art Unit: 2884

group consisting of silazane and siloxazane type polymers, mixtures thereof and mixtures of said silazane or siloxazane type polymers with compatible film-forming polymers, in order to obtain a protective layer having desired properties such as good abrasion and scratching resistancy. As another example, Homme teaches (paragraph 33) that a protective layer comprises polyparaxylylene. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide known polymers (e.g., polyparaxylylene, silazane, siloxazane, compatible film-forming polymers, or mixtures thereof) for the protective layer in the method of Kano *et al.*, in order to obtain a protective layer having desired properties such as good abrasion and scratching resistancy.

In regard to claims **35**, **39**, and **43**, Kano *et al.* in view of Benz *et al.* is applied as in claims 33, 37, and 41 above and Homme is applied as in claim 3 above.

11. Claims 4, 8, 12, 16, 20, 24, 36, 40, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873) and Arakawa *et al.* (US 4,863,826) as applied to claim 2 above, and further in view of Homme (US 2003/0160185).

In regard to claim **4** which is dependent on claim 2, Homme is applied as in claim 3 above.

In regard to claim **8** which is dependent on claim 4, Kano *et al.* is applied as in claim 5 above.

In regard to claim **12** which is dependent on claim 4, Kano *et al.* is applied as in claim 9 above.

In regard to claim **16** which is dependent on claim 8, Kano *et al.* is applied as in claim 9 above.

In regard to claim **20** which is dependent on claim 12, Kano *et al.* is applied as in claim 17 above.

In regard to claim **24** which is dependent on claim 16, Kano *et al.* is applied as in claim 17 above.

In regard to claims **36, 40, and 44**, Kano *et al.* in view of Benz *et al.* is applied as in claims 33, 37, and 41 above and Homme is applied as in claim 3 above.

12. Claims 25 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873) as applied to claims 17 and 21 above, and further in view of Karellas (US 5,864,146).

In regard to claim **25** (which is dependent on claim 17) and claim **29** (which is dependent on claim 21), the modified sensor of Kano *et al.* lacks that that said imaging device is a CCD. Karellas teaches (column 33, lines 9-23) to provide a CCD as the imaging device, in order to obtain more accurate resolution. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a CCD in the modified sensor of Kano *et al.*, in order to obtain more accurate resolution.

13. Claims 26 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873) and Arakawa *et al.* (US 4,863,826) as applied to claims 18 and 22 above, and further in view of Karellas (US 5,864,146).

In regard to claim **26** (which is dependent on claim 18) and claim **30** (which is dependent on claim 22), Karellas is applied as in claim 25 above.

14. Claims 27 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873) and Homme (US 2003/0160185) as applied to claims 19 and 23 above, and further in view of Karellas (US 5,864,146).

In regard to claim **27** (which is dependent on claim 19) and claim **31** (which is dependent on claim 23), Karellas is applied as in claim 25 above.

15. Claims 28 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873), Arakawa *et al.* (US 4,863,826), and Homme (US 2003/0160185) as applied to claims 20 and 24 above, and further in view of Karellas (US 5,864,146).

In regard to claim **28** which is dependent on claim 20, Karellas is applied as in claim 25 above.

In regard to claim **32** which is dependent on claim 24, Karellas is applied as in claim 25 above.

16. Claims 34, 38, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873) and Arakawa *et al.* (US 4,863,826) as applied to claim 2 above, and further in view of Homme (US 2003/0160185).

In regard to claims **34**, **38**, and **42**, Kano *et al.* in view of Benz *et al.* is applied as in claims 33, 37, and 41 above and Homme is applied as in claim 3 above.

***Response to Arguments***

17. Applicant's arguments filed 5 June 2006 have been fully considered but they are not persuasive.

Applicant argues (second paragraph on pg. 17 of remarks filed 5 June 2006) that the Office correctly notes that Kano *et al.* fails to recite polymeric films containing polymers selected from the group consisting of silazane and siloxazane polymers, mixtures thereof and mixtures of silazane or siloxazane polymers with compatible film-forming polymers. Examiner respectfully disagrees. The prior office action states that "The screen of Kano *et al.* lacks an explicit description that the polymeric film contains polymers selected from the group consisting of silazane and siloxazane type polymers, mixtures thereof and mixtures of said silazane or siloxazane type polymers with compatible film-forming polymers". The key phrase is "an explicit description". It should be noted that Kano *et al.* state (column 10, lines 29-32) that "As the above-mentioned thermosetting resin according to this invention, there may be exemplified ... silicone resins ... " and silicone is defined<sup>1</sup> as "any of various polymeric organic silicon compounds obtained as oils, greases, or plastics and used especially for water-resistant and heat-resistant lubricants, varnishes, binders, and electric insulators". Thus the genus of silicone resins implicitly includes the species of polymers selected from the group consisting of silazane and siloxazane type polymers, mixtures thereof and mixtures of said silazane or siloxazane type polymers with compatible film-forming

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<sup>1</sup> Merriam Webster's Collegiate Dictionary 10<sup>th</sup> Edition

Art Unit: 2884

polymers. Therefore, while Kano *et al.* lacks an explicit description of a silazane and/or siloxazane species, Kano *et al.* expressly disclose the silicone resin genus.

Applicant argues (last paragraph on pg. 17 of remarks filed 5 June 2006) that the Office has confused siloxane with siloxazane. Examiner respectfully disagrees. Benz *et al.* state (column 3, lines 29-32) that "In addition to the preferred used hexamethyl disiloxane other methyl-, -vinyl-, phenyl-, or alkoxy group containing siloxane, silazane or silane for forming the protective layer". The key phrase is "silazane ". It should be noted that silazane is generally employed in the literature to denote polymeric substances containing a plurality of -NR-Si- units and the term polysiloxazane is preferably employed when the macromolecular chain also contains oxygen (e.g., see column 1, lines 15-20 of Colombier *et al.*). Thus the use of the term silazane implicitly includes siloxazane (e.g., see the abstract of Benz *et al.* which states that "Substances, in particular oxygen are added to the monomeric vapor during the polymerization which increases the layer hardness"). Thus Benz *et al.* teach that the polymeric film contains polymers selected from the group consisting of silazane and siloxazane polymers, mixtures thereof and mixtures of said silazane or siloxazane polymers with compatible film-forming polymers.

Applicant argues (second and third paragraphs on pg. 18 of remarks filed 5 June 2006) that one of skill in the art would avoid using the silazane defined as permanently withstand chemical and thermically influences by Benz *et al.* for the layers of Kano *et al.* which regain moisture. Examiner respectfully disagrees. Kano *et al.* state (column 2, line 66 to column 3, line 9) that "Here, the expression "regains (moisture



Art Unit: 2884

regains) for the relative humidity of 90% on a sorption isotherm at 25°C being different by 0.5% or more" means as follows. That is to say, a regain is represented in percentage of a moisture absorbed by a substance per weight of the substance in a drying state. Assuming that the protective layer is constituted of layer A and layer B, when the de-sorption isotherm is prepared at 25°C for the layers A and B, the regain (moisture regain) of one layer at the relative humidity of 90% differs by 0.5% or more from that of the other layer at the same relative humidity". Thus it is the difference in regain between the two layers that is being specified by Kano *et al.* It is important to recognize that Kano *et al.* does not specify that both layers must have moisture regains. Thus a layer that permanently withstand chemical and thermally influences could be used as layer A of Kano *et al.* as long as layer B have 0.5% or more moisture regains relative to layer A.

Applicant argues (last paragraph on pg. 18 of remarks filed 5 June 2006) that one of skill in the art of coatings would immediately realize that a coating that permanently withstands chemical influences is not going to absorb chemicals since this is, by definition, contrary to the goal of withstanding chemical influence. Examiner respectfully disagrees. Benz *et al.* state (column 6, lines 56-61) that "Thereby, due to the addition of oxygen during the polymerisation the effect described in the U.S. Pat. No. 4,085,248 occurs, i.e., the originally lyophobic monomer of the layer is lyophilized by the oxygen treatment and therefore assumes the characteristics of the aforementioned publication". US Patent 4,085,248 (Zehender *et al.*) states (abstract) that "After polymerization, the layer is rendered hydrophilic by treatment with oxygen at

Art Unit: 2884

a pressure of about  $10^{-2}$  to  $10^{-3}$  m bar to form an organosilicon polymeric protective layer which is inherently hydrophobic and has a hydrophilic surface". It should be noted that hydrophilic is defined<sup>1</sup> as "of, relating to, or having a strong affinity for water". Thus Benz *et al.* teach that the oxygen treatment produces a layer having characteristics (e.g., a strong affinity for water) which are known in the art.

Applicant argues (first paragraph on pg. 19 of remarks filed 5 June 2006) that one of skill in the art would be led away from the combination since the properties of the coatings in Benz *et al.* are contrary to the desired properties of the coating in Kano *et al.* Examiner respectfully disagrees. As discussed above, Kano *et al.* expressly disclose a silicone resin genus for at least one of layers A and B wherein there is a 0.5% or more difference in moisture regains between layers A and B and Benz *et al.* teach that oxygen treatment produces a silazane layer having a strong affinity for water.

Applicant argues (last paragraph on pg. 19 of remarks filed 5 June 2006) that Kano *et al.* recite a necessity for a certain level of moisture regain. Examiner respectfully disagrees. As discussed above, Kano *et al.* expressly disclose a silicone resin genus for at least one of the layers A and B wherein there is a 0.5% or more difference in moisture regains between layers A and B and does not require a certain level of moisture regain for one of the layers.

Applicant also argues (last paragraph on pg. 19 of remarks filed 5 June 2006) that the mere recitation of a coating is not sufficient motivation for the combination. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or

modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, there is some teaching, suggestion, or motivation to do so found in the references themselves. As discussed above, Kano *et al.* expressly disclose a silicone resin genus for at least one of the protective layers. Thus one having ordinary skill in the art would have selected one or more known species (e.g., the silazane protective layer of Benz *et al.*) of a silicone resin protective layer as taught by Kano *et al.* Further one of skill in the art would reasonably expect the combination to be successful since the silazane protective layer can be match with a different layer so as to obtain a 0.5% or more difference in moisture regains between the layers as required by Kano *et al.*

In response to applicant's argument (first paragraph on pg. 20 of remarks filed 5 June 2006) that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant argues (last three paragraphs on pg. 20 to third paragraph on pg. 21 of remarks filed 5 June 2006) that Arakawa *et al.* do not mitigate the deficiencies of the primary references with which it is combined. Examiner respectfully disagrees with applicant's arguments for the reasons discussed above.

Applicant argues (last three paragraphs on pg. 21 to third paragraph on pg. 22 of remarks filed 5 June 2006) that Homme does not mitigate the deficiencies of the primary references with which it is combined. Examiner respectfully disagrees with applicant's arguments for the reasons discussed above.

Applicant argues (last paragraph on pg. 22 to last paragraph on pg. 27 of remarks filed 5 June 2006) that claims are allowable based on the same arguments previously presented. Examiner respectfully disagrees for the reasons discussed above.

### ***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 4,085,248 (Zehender *et al.*) states (abstract) that "After polymerization, the layer is rendered hydrophilic by treatment with oxygen at a pressure of about  $10^{-2}$  to  $10^{-3}$  m bar to form an organosilicon polymeric protective layer which is inherently hydrophobic and has a hydrophilic surface". US Patent 5,010,158 (Colombier *et al.*) states (column 1, lines 15-20) that "The terms polysilazanes, organopolysilazanes, silazane polymers or carbosilazane resins, as they are encountered in the literature, are generally employed to denote solid or more or less viscous liquid polymeric substances containing a plurality of -NR-Si- units. The term

polysiloxazane is preferably employed when the macromolecular chain also contains oxygen".

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shun Lee whose telephone number is (571) 272-2439. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2884

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SL



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